

Standard Operating Procedures for Latent Print Processing with Leucocrystal Violet

1 Scope

Leucocrystal Violet is used by latent print personnel to enhance visual prints or develop latent prints deposited in blood.

2 Equipment/Materials/Reagents

Beakers or graduated cylinders

Balance

Spatula

Distilled water

Squirt bottles, sprayers, and tissues or paper towels

Dark bottles

Magnetic stirrer and stir bar(s)

Leucocrystal Violet (dye content $\geq 90\%$)

Sodium Acetate

Hydrogen Peroxide (3% solution)

5-Sulfosalicylic Acid (purity $\geq 99\%$)

3 Standards and Controls

Not applicable.

4 Sampling or Sample Selection

Not applicable.

5 Procedures

5.1 Leucocrystal Violet Working Solution Preparation

Combine:

- Hydrogen Peroxide (3% solution) - 1000 ml
- 5-Sulfosalicylic Acid - 20 g
- Sodium Acetate - 7.4 g
- Leucocrystal Violet - 2 g

Stir until Leucocrystal Violet dissolves (approximately 30 minutes).

5.2 Application

- a) Apply Leucocrystal Violet working solution to specimen.

Note: Leucocrystal Violet is prone to over-development. Use with finest mist possible to avoid over-development and running of bloody print.

- b) Blot area with a tissue or paper towel.

- c) For digital capture and photography, see FBI Latent Print Units Processing Manual Preamble.

5.3 Storage

Leucocrystal Violet working solution must be stored in a dark bottle.

5.4 Shelf Life

Leucocrystal Violet working solution has a 30-day shelf life provided the reagent checks are satisfactory.

5.5 Reagent Checks

See FBI Latent Print Units Processing Manual, Preamble.

6 Calculations

Not applicable.

7 Measurement Uncertainty

Not applicable.

8 Limitations

Not applicable.

9 Safety

See FBI Laboratory Safety Manual for appropriate information.

10 References

FBI Laboratory Safety Manual, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

FBI Latent Print Units Processing Manual, Preamble, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

Takayanagi, M., et al. "Colorimetry of Hydrogen Peroxide Using Leuco Crystal Violet (LCV)". *Japanese Journal of Clinical Chemistry*. 14:337.

Trozzi, T. A., Schwartz, R. L., and Hollars, M. L. *Processing Guide for Developing Latent Prints*, FBI Laboratory, Washington DC, 2001.

Rev. #	Issue Date	History
0	01/13/14	Original document issued. Derived from Discontinued Latent Print Operations Manual, Standard Operating Procedures for Processes Used to Develop Latent Prints. The original LPU Processing Manual consisted of a single document with a preamble and procedures for all processes. The current document separates each into its own separate document.
1	10/02/17	Specific section numbers referenced in Preamble removed throughout document. Section 1, latent print personnel added. Section 4 removed and remaining renumbered. Titles for Section 4 and Section 7 modified. Section 9, generalized. Updated for Biometrics Analysis Unit. References Updated. Abbreviations addressed.

Approval

Redacted - Signatures on File